

**Statement of
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Chairman Calvert and Members of the Subcommittee, I am pleased to appear before you today to discuss NASA's Workforce Strategy.

The Vision for Space Exploration and NASA's mission of scientific discovery and aeronautics research offer unique and exciting opportunities for the Nation and for the Agency. They also offer significant challenges. NASA must retire the Space Shuttle, complete the International Space Station, develop new transportation and launch support systems, maintain a robust science portfolio, and refocus its aeronautics program in core disciplines and research areas appropriate to NASA's unique capabilities. I would like to take a few minutes to talk about the Agency's workforce issues that arise from these challenges and opportunities and how NASA is addressing them.

NASA Workforce Strategy

NASA has always understood that a well-trained, highly skilled, and high-performing workforce is essential to mission success. The NASA Workforce Strategy, submitted to Congress in April, is designed to ensure that the Agency can maintain the knowledge base of the current workforce, as well as broaden, reinvigorate, and acquire new skills necessary to accomplish the Vision for Space Exploration and NASA's science and aeronautics mission. The document is based on three underlying principles: building and sustaining ten healthy Centers; maximizing the use of NASA's current human capital capabilities; and evolving to a more flexible, scalable workforce. The overall objective of the Workforce Strategy is to transform the composition of NASA's workforce so that it remains viable for the long-term goals of NASA's missions.

Key Principles

Successful accomplishment of NASA's missions requires ten fully engaged and productive Centers. The "healthy Centers" approach fully utilizes all of NASA's resources and vastly increases the Agency's ability to manage the normal cycles of programs and projects in a comprehensive, reasoned, and cost-effective manner. As described in the 2006 NASA Strategic Plan, strong, healthy Centers have: clear, stable, and enduring roles and responsibilities; clear program/project management leadership roles; major in-house, durable spaceflight responsibility; skilled and flexible, blended workforce with sufficient depth and breadth; technically competent and values-centered

leadership; capable and effectively utilized infrastructure; and strong stakeholder commitment. A healthy Center must also have an appropriately-sized workforce and infrastructure to meet mission needs.

NASA also seeks to maximize the use of the Agency's current human capital capabilities. The current workforce represents a wealth of skills and valuable experience. Throughout the reshaping process, the Agency is committed to capitalizing on the potential of this workforce by using, expanding, rebalancing, and realigning existing skills, as necessary.

NASA's workforce must have the flexibility to respond effectively to mission, programmatic, and budget changes, as well as demographic and labor fluctuations. As these changes occur, the Agency must be able to adjust quickly to address staffing needs or skills imbalances, requiring a more appropriate blend of permanent and nonpermanent (term and temporary) civil servants.

Key Actions and Initiatives

NASA's Workforce Strategy hinges on certain key actions and initiatives: implementing a new workforce planning process; assessing competency gaps with greater detail and accuracy; and making effective use of a broad array of human capital tools and options to address workforce issues.

Past approaches to workforce planning were predominantly Center-based, short-term, ad hoc, and loosely-connected. NASA's new approach reflects planning and integration among all levels of management, with workforce planning integrated with strategic, business, and resource planning activities in order to assess how best to use both internal and external workforce to meet work requirements. With an enhanced workforce planning capability, NASA will be better able to identify areas of potential risk in matching workforce to work, allowing more time to develop strategies to mitigate these risks.

Agency-wide, integrated workforce planning also strengthens the Agency's competency assessment ability – the ability to assess the demand for, and supply of, workforce skills based on current and projected work requirements. The most recent analyses of competency gaps and surpluses, summarized in the Workforce Strategy, were conducted in January 2006 and cover the period FY 2006 through FY 2011. They were derived from NASA's Competency Management System and then reviewed and updated by the Centers and Mission Directorates. The Agency will continue to update and refine these analyses as the Agency completes plans for exploration systems programs and projects, defines the nature of the work content for the programs/projects, and determines the roles the various Centers will have in accomplishing this work. Further refinements are likely in the area of aeronautics as well, as NASA returns to long-term investment in cutting-edge fundamental research.

NASA has, and will continue to, make use of available tools and flexibilities to recruit and retain a quality workforce, including financial and non-financial incentives, technology-based processes to facilitate recruitment, and a high-quality work environment.

Pressing Workforce Challenges

NASA's approach to addressing its two most pressing workforce challenges – uncovered capacity, caused by program changes and cancellations and budget constraints, and retaining Space Shuttle employees through its retirement in 2010 – reflects the Agency's commitment to the principles and approaches reflected in the Workforce Strategy.

NASA has been addressing the challenge of mitigating the number of civil service full-time equivalents (FTEs) not currently supporting NASA programs (the so-called "uncovered capacity") through a number of means for many months. Initial efforts (since 2004) included: retaining sufficient work in-house to protect and strengthen core capabilities; sponsoring job fairs to facilitate transferring employees to Centers needing their skills; implementing hiring controls and establishing ceilings on Center complements to provide more opportunities for placing employees; and encouraging voluntary attrition through buyouts and early-outs. Although these efforts have been responsible for reducing the problem by two-thirds, NASA still has significant uncovered capacity problem.

NASA is focusing efforts to deal with our remaining uncovered capacity through a number of other actions, including: assignment of new projects to research Centers to maintain the base of in-house work; movement of certain research and technology development projects from certain Centers without uncovered capacity problems to Centers that have them; retraining efforts at Centers so that the technical workforce can develop new skills; and the pursuit of reimbursable work for projects and research to support other government agencies and the private sector through Space Act Agreements. The first examples of the new assignments were provided in last week's announcement of the placement of some of the Constellation program's work. All Centers are now a part of the Constellation program, and major new assignments were made at several Centers that reduced their uncovered capacity significantly. We expect to continue to address the uncovered capacity through additional actions, as described above, throughout this fiscal year. As we have testified before, NASA will conduct a reduction in force of any of our civil servants only as an action of last resort consistent with our statutory constraints.

The Subcommittee has asked how NASA has ensured that employees with critical skills have not accepted the buyouts I mentioned a moment ago. The answer is this – As required by the NASA Flexibility Act of 2004, NASA periodically conducts analyses of critical workforce needs and documents in a Workforce Plan the Agency's *critical* (as defined in that document) workforce competencies. The most recent Workforce Plan, Revision 1, dated June 6, 2005 – provided to the Congress in accordance with the Act – lists the following among the critical workforce competencies: program/project

management, systems engineering, integration engineering, mission assurance, quality engineering and assurance, safety engineering and assurance, propulsion systems and testing, habitability and environmental factors.

In addition, since FY 2003, and consistent with Congressional direction from NASA's annual appropriation, the NASA Administrator has certified that any payments to separated individuals under approved buyout plans will not result in the loss of skills related to the safety of the Space Shuttle or the International Space Station or to the conduct of independent safety oversight in NASA.

Buyout plans are developed by Centers, based on their in-depth analysis of the competencies needed to staff their continuing programs and the number of employees needed in each competency area. A Center's buyout plans must identify the competencies they intend to reduce. Buyout plans are then reviewed by Headquarters staff to ensure that NASA is not buying out critical competencies, and the plans must be approved by the Chief Human Capital Officer. As a general rule, the Agency would not permit Centers to include any critical workforce competencies in their buyout plans. However, it is possible that a particular Center might need fewer employees in a critical workforce competency than currently on board, while other Centers might have vacancies in that area. If this were to occur, NASA would attempt to place those individuals at other NASA locations where their skills were needed before offering buyouts. Only if this were not possible would the individuals be approved for a buyout. The Center's buyout plans must provide documentation that they are not buying out individuals associated with a critical competency that could be used at that employee's Center or another Center to which the employee is willing to relocate.

NASA is also addressing unique challenges presented by retiring the Space Shuttle: retaining the skills necessary to safely execute the remaining Space Shuttle missions and managing the transition of the Space Shuttle workforce in a way that balances Agency and employee needs, capitalizing on the capabilities of that workforce to advance the Vision for Space Exploration, while recognizing that fewer people will be required to sustain exploration operations. The magnitude and complexity of the Space Shuttle workforce issues require coordinated workforce planning – involving Centers, Programs, Projects, Mission Directorates, and Mission Support Offices – and continuing analyses of competency gaps and surpluses. A Shuttle Human Capital Working Group has been established to coordinate the development, implementation, assessment, and updating of coordinated human capital plans and to ensure that Space Shuttle workforce issues and concerns are raised to all stakeholders so that solutions support both the current Space Operations Mission Directorate needs and future Exploration Systems Mission Directorate requirements. NASA will continue to conduct active, timely, and open communications with Space Shuttle employees on the status of their work, future opportunities, and other issues of concern. The Agency's approach to ensuring that critical skills are retained involves non-financial motivators as well as the more traditional incentives – providing challenging, exciting follow-on work in Constellation and other programs; maintaining NASA's quality workplace by providing a collaborative

and creative environment and supporting career development and learning opportunities; and offering financial incentives (such as retention bonuses, qualifications pay, and temporary promotions) on a case-by-case basis, when appropriate.

Human Capital Tools and Flexibilities

The tools provided by the NASA Flexibility Act of 2004, for example – in conjunction with our other human capital flexibilities, programs, and initiatives – are vitally important to the Agency in addressing current workforce issues and in strengthening and reshaping the workforce to support the Vision for Space Exploration. The value of the NASA Flexibility Act lies in the fact that it consists of several diverse authorities and flexibilities that provide targeted solutions to multiple challenges – the need to recruit new talent and the need to leverage the talent of the current workforce.

When we choose to fill a position externally, we must make the most of the opportunity and hire the very best. The new hiring authorities and incentives help us attract the talent we need. Two incentives that have been particularly effective are the enhanced annual leave authority and the authority to pay full travel and transportation costs when a new appointee must relocate to accept the job. We must also leverage the talent of our current workforce as programs and technologies change. The qualifications pay and relocation bonus authorities are helpful when we must incentivize employees to take new positions in which their expertise is needed. Furthermore, the term appointment authority, the Senior Executive Service limited term appointment authority, and the extended Intergovernmental Personnel Act assignments are ideal hiring approaches to achieving the objective of an agile workforce suited to respond to program and project changes.

In addition, while we have not been able to employ as many recent college graduates as we had hoped over the last few years due to current uncovered capacity in some areas, NASA Centers have made use of programs such as the Student Employment Program (“Co-op” Program) and the Federal Career Intern Program (FCIP) to recruit new talent into the Agency. NASA Centers have cooperative education program agreements in place with multiple universities. Co-op students have an opportunity to demonstrate their abilities on the job to NASA managers, and the best of them are converted to entry level engineers, scientists and business professionals upon graduation. The FCIP has also allowed us to hire recent college graduates. The fact that these interns are brought in under term appointments, with the ability to convert them to permanent, provides additional flexibility in managing our FTEs. While the NASA Flexibility Act gives NASA the Distinguished Scholar Appointment Authority, the Agency has not made extensive use of this particular tool, since it does not provide the same flexibility as the FCIP to bring in entry level employees on term appointments. External hiring of individuals into *permanent* positions (as under the Distinguished Scholar Appointment Authority) is being more closely controlled until uncovered capacity numbers are reduced.

Among other human capital tools and programs critical to retention of needed workforce capability are efforts to support employee career development and learning activities. NASA is strongly committed to the principle of life-long learning for its employees and recognizes that providing employees a clear vision of career development opportunities is a valuable tool in retaining needed skills. NASA actively promotes training programs to develop and maintain skills, including leadership skills. NASA's Strategy for Leadership and Career Development, for example, includes a framework for a consistent and integrated approach to leadership and management development. Elements include: core experiences and broadening opportunities, including intellectual and geographic mobility, as appropriate; core and optional courses relevant to both achieving mastery in the employee's current role as well as preparing for the next step; required role-specific courses on safety and diversity; assessments of feedback from subordinates, supervisors, customers, peers, and stakeholders; continuing education; individual development plans; and coaching and mentoring. NASA's leadership programs are benchmarked government-wide as a proven process to develop future leaders, as well as share mission-critical knowledge across an organization.

In addition, NASA sponsors programs for the transfer of technical and organizational knowledge through its Masters Forum, ASK Magazine, and the Academy of Program/Project and Engineering Leadership learning programs. From these activities, program/project managers and engineers engage, share, and learn from fellow practitioners through stories and lessons learned.

Beyond these Agency-wide programs, many Centers are taking steps to develop innovative programs for mentoring and building program and project leadership skills in the context of the Center's mission.

NASA recognizes the importance of maintaining a reputation as a "good place to work" and continues to support human capital practices that foster such an environment. For example, the Agency devotes significant attention to performance assessment and recognition, recognizing that these contribute to employee satisfaction and to resolution of problems that might otherwise impede mission success and morale.

The most important retention factor for NASA is the mission itself. We have a very low attrition rate because of the nature of our mission. Talented and high-performing individuals are attracted to organizations that provide challenging work in a creative professional environment offering opportunities for growth. The Vision for Space Exploration which gives the Agency a new long-term vision and clear, bold objectives is, as the Workforce Strategy points out, the archetypal creative professional opportunity.

Conclusion

The Workforce Strategy that NASA has developed and will continue to refine allows NASA to deal effectively with the critical issues now facing the Agency. NASA realizes, however, that it is not sufficient to solve the immediate problems. Rather, the Agency's goal is to address these issues now on an integrated, Agency-wide basis, putting in place approaches that not only alleviate the Agency's current imbalances, but also provide a structure that allows such issues to be resolved in the future as part of a "normal process." NASA does recognize that some future events, such as retirement of the Space Shuttle Program, require long-term planning and Agency-level coordination. The foundation being built today, however, will greatly facilitate their resolution.